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## INTELLIGENCE MEMORANDUM

### QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT IN THE SINO-SOVIET BLOC APRIL-JUNE 1956

CIA/RR IM-432

20 July 1956

#### WARNING

THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, USC, SECS. 793 AND 794, THE TRANSMISSION OR REVELATION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

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FOREWORD

This publication is the fifth in a series to be issued on a quarterly basis summarizing production of aircraft in the Sino-Soviet Bloc. The estimates presented are intended to supersede those contained in previous ORR reports and are published to satisfy the requests of consumers for the most recent estimates of production of aircraft in the Bloc. The new methodology, based upon the experience of the US aircraft industry in production since World War II -- which was employed to a limited extent in the past two publications -- has been employed to a greater extent in preparing the present estimates. Changes in the present estimates from past estimates, however, have resulted from more recent intelligence rather than specifically from the new methodology. No interagency coordination has been attempted, and no dissemination of this memorandum outside of CIA is planned.

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(ORR Project 33.1071)

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QUARTERLY ESTIMATE OF THE PRODUCTION OF AIRCRAFT  
IN THE SINO-SOVIET BLOC  
1953 THROUGH JUNE 1956\*

1. Trends in Production.

In the second quarter of 1956, estimated production of aircraft by the Sino-Soviet Bloc increased about 5 percent over production in the previous quarter.\*\* The increase was mainly in the production of fighter aircraft in the USSR, where production of new models continues to advance along the estimated production acceleration curve.\*\*\* Production in terms of airframe weight registered an even larger increase, almost 10 percent over that of the previous quarter. The larger increase in airframe weight reflects rising rates of production of heavy bombers and the replacement in production of the Fresco (MIG-17) fighter by the heavier Farmer and Flashlight models. Somewhat less than 60 percent of the aircraft produced during the second quarter of 1956 are believed to have been combat types.\*\*\*\*

2. Soviet Production.

The Soviet share of the estimated total production of aircraft by the Sino-Soviet Bloc remained essentially unchanged during the second quarter of 1956.\*\*\*\*\* Of the 2,300 aircraft estimated to have been produced by the Bloc during the quarter, about 2,000, or

\* The estimates and conclusions contained in this memorandum represent the best judgment of ORR as of 25 June 1956.

\*\* Estimated production of aircraft in the Sino-Soviet Bloc from 1953 through the second quarter of 1956, by number, is given in Table 1, p. 5, below, and by airframe weight, in Table 2, p. 6, below.

\*\*\* Estimated cumulative production of selected Soviet military aircraft through the second quarter of 1956 is given in Table 3, p. 7, below.

\*\*\*\* For the purposes of this memorandum, combat types include bomber, fighter, and ground attack aircraft. Other aircraft such as helicopters and transports have uses under both combat and noncombat conditions.

\*\*\*\*\* Production of aircraft in the USSR from 1953 through the second quarter of 1956, by number, is given in Table 4, p. 8, below, and by airframe weight, in Table 5, p. 9, below.

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roughly 85 percent, were produced in the USSR. On the basis of air-frame weight, almost 95 percent of the production took place in the USSR. This figure continues to emphasize the fact that the Satellites produce relatively lighter aircraft. About 90 percent of all production of combat aircraft by the Bloc during the second quarter of 1956 is believed to have taken place in the USSR.

25X1B4d

Recent intelligence information has resulted in several changes in previously published estimates of Soviet production of aircraft. [REDACTED]

25X1B4d9

25X1B4d

[REDACTED] a maximum of 27 Bisons had been produced through 1955. This reduction in production of Bisons from previous estimates is strongly supported by the limited number of sightings of Bisons at the producing plant, which is located in Moscow. It is estimated that by the end of June 1956 a cumulative total of 56 Bisons had been produced.\*

25X1B4d

25X1B4d

[REDACTED] the Bear, the four-engine turboprop heavy bomber, [REDACTED] is in series production. The producing plant, No. 18 in Kuybyshev, is estimated to have produced a cumulative total of 44 Bears by the end of June 1956.

A recent reliable sighting at the airframe plant in Rostov indicates that production of a new model, either a jet trainer or fighter, is in progress. Production of this aircraft, tentatively carried as a jet trainer in this publication, is estimated to have begun during the first quarter of 1956. Continued surveillance of Plant No. 30 in Moscow reveals the absence of Beagle (Il-28) delivery flights since February 1956. Such absence probably indicates the cessation of production of Beagles and the imminent production of a new aircraft at the plant. This new production may be the new jet light bomber seen during the recent Aviation Day Airshow rehearsals. Evidence is insufficient at present to determine whether this new bomber is a prototype of a production model.

\* Evidence received too late to include in the present estimate indicates the possibility that less than 10 Bisons had been produced during the first two quarters of 1956. This information, after analysis and evaluation, will be integrated into the next publication in this series.

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Estimates of production of Farmers and Flashlights have been revised upward because of a recalculation of the airframe weights of these aircraft by USAF, AFOIN-4. The weight of the Farmer has been reduced from 9,800 lbs to 8,000 lbs and that of the Flashlight, from 10,300 lbs to 8,800 lbs.

It is estimated that during the second quarter of 1956 Soviet production of military aircraft exceeded that of the US by about 20 percent.\* In terms of airframe weight, Soviet production of military aircraft exceeded that of the US by about 15 percent.

### 3. Satellite Production.

In the second quarter of 1956 the European Satellites produced an estimated total of 340 aircraft, or about 15 percent of total production of aircraft in the Sino-Soviet Bloc.\*\* Czechoslovakia and Poland remain the largest producers among the Satellites, accounting for about 73 and 24 percent, respectively, or a combined total of about 97 percent, of Satellite production of aircraft by number.

During the first half of 1956 the newly organized facility for production of aircraft at Dresden in East Germany assembled a small quantity of Crate (Il-14) twin-engine transport aircraft from Soviet-manufactured and semi-processed parts as a prelude to local production, which reportedly is to begin late in 1956. There have been indications that substantial Soviet aid will permit Communist China to undertake production of aircraft by the latter part of 1956.

\* Production of military aircraft in the USSR and the US from 1953 through the second quarter of 1956 are compared, by number, in Figure 1, following p. 14, and by airframe weight, in Figure 2, following p. 14. For additional comparison, US military aircraft acceptances from 1953 through the second quarter of 1956, by number, are given in Table 6, p. 10, below, and by airframe weight, in Table 7, p. 11, below.

\*\* Estimated production of aircraft in the European Satellites from 1953 through the second quarter of 1956, by number, is given in Table 8, p. 12, below, and by airframe weight, in Table 9, p. 13, below.

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New production of two aircraft of known design has begun in Czechoslovakia. A trial series of the Soviet Crane was produced at the Prague/Cakovice "Avia" plant in the first half of 1956. The sports plane plant at Chocen is believed to be producing the Brigadyr (L-60), a light aircraft adapted from the German Fieseler Storch, for crop dusting.

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## S-E-C-R-E-T

Table 1

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Number  
1953 Through Second Quarter of 1956

Type of Aircraft	Units <sup>a/</sup>				
	1953	1954	1955	1st Quarter of 1956	2d Quarter of 1956
Jet bomber					
Heavy	0	2	25	13	16
Medium	10	160	300	84	87
Light	1,400	1,300	980	180	180
Turboprop bomber					
Heavy	0	0	6	15	23
Piston bomber					
Medium	130	0	0	0	0
Jet fighter	4,000	4,300	3,800	870	940
Ground attack	460	210	60	0	0
Transport	1,700	1,700	830	230	240
Trainer					
Jet	520	1,200	1,400	350	360
Piston	880	1,100	1,200	300	300
Others <sup>b/</sup>	700	670	590	160	160
Total	<u>9,900</u>	<u>11,000</u>	<u>9,100</u>	<u>2,200</u>	<u>2,300</u>

a. Rounded to reflect the maximum number of significant digits consistent with estimating procedures.

b. Helicopters, gliders, seaplanes, and utility aircraft.

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Table 2

Estimated Production of Aircraft in the Sino-Soviet Bloc, by Weight  
1953 Through Second Quarter of 1956

<u>Type of Aircraft</u>	<u>Thousand Pounds of Airframe Weight <sup>a/</sup></u>				
	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1st Quarter of 1956</u>	<u>2d Quarter of 1956</u>
Jet bomber					
Heavy	0	220	2,800	1,500	1,800
Medium	510	8,200	15,000	4,300	4,400
Light	26,000	23,000	18,000	3,300	3,200
Turboprop bomber					
Heavy	0	0	540	1,300	2,100
Piston bomber					
Medium	7,000	0	0	0	0
Jet fighter	28,000	30,000	28,000	7,400	8,200
Ground attack	3,800	1,700	500	0	0
Transport	9,100	9,400	3,600	1,400	1,600
Trainer					
Jet	3,200	8,600	9,800	2,200	2,200
Piston	890	1,500	2,000	490	490
Others <sup>b/</sup>	6,800	6,600	5,600	1,500	1,600
Total	<u>85,000</u>	<u>90,000</u>	<u>86,000</u>	<u>23,000</u>	<u>26,000</u>

a. These figures include production of spare parts and are rounded to reflect the maximum number of significant digits consistent with estimating procedures.

b. Helicopters, gliders, seaplanes, and utility aircraft.

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Table 3

Estimated Cumulative Production of Selected Soviet Military Aircraft  
Through Second Quarter of 1956

		Units <sup>a/</sup>
Model	Type of Aircraft	Production to 1 July 1956
Badger	Jet medium bomber	640
Beagle	Jet light bomber	4,500
Bear	Turboprop heavy bomber	44
Bison	Jet heavy bomber	56 <sup>b/</sup>
Camel	Jet transport	19
Farmer	Jet fighter	720
Flashlight	Jet all-weather interceptor	580
Fresco	Jet fighter	9,900
Horse	Helicopter	34
Hound	Helicopter	450
New fighter	Probable jet fighter	280
Unidentified aircraft	Probable jet trainer or fighter	12

a. Rounded to reflect the maximum number of significant digits consistent with estimating procedures.

b. Evidence received too late to include in the present estimate indicates the probability that the total cumulative production of Bisons to the end of June 1956 was not greater than about 35. This recent information, after analysis and evaluation, will be integrated into the next publication in this series.

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Table 4

Estimated Production of Aircraft in the USSR, by Number  
1953 Through Second Quarter of 1956

Type of Aircraft	Units <sup>a/</sup>				
	1953	1954	1955	1st Quarter of 1956	2d Quarter of 1956
Jet bomber					
Heavy	0	2	25	13	16
Medium	10	160	300	84	87
Light	1,400	1,300	980	180	180
Turboprop bomber					
Heavy	0	0	6	15	23
Piston bomber					
Medium	130	0	0	0	0
Jet fighter	3,700	3,800	3,200	760	820
Transport	1,700	1,700	810	220	220
Trainer					
Jet	520	1,100	1,100	240	250
Piston	680	830	830	210	210
Others <sup>b/</sup>	680	650	570	150	160
Total	<u>8,900</u>	<u>9,500</u>	<u>7,800</u>	<u>1,870</u>	<u>1,960</u>

a. Rounded to reflect the maximum number of significant digits consistent with estimating procedures.

b. Helicopters, gliders, and seaplanes.

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Table 5

Estimated Production of Aircraft in the USSR, by Weight  
1953 Through Second Quarter of 1956

Thousand Pounds of Airframe Weight <sup>a/</sup>					
Type of Aircraft	1953	1954	1955	1st Quarter of 1956	2d Quarter of 1956
Jet bomber					
Heavy	0	220	2,800	1,500	1,800
Medium	510	8,200	15,000	4,300	4,400
Light	26,000	23,000	18,000	3,300	3,200
Turboprop bomber					
Heavy	0	0	540	1,300	2,100
Piston bomber					
Medium	7,000	0	0	0	0
Jet fighter	27,000	27,000	25,000	6,800	7,600
Transport	9,000	9,400	3,600	1,300	1,500
Trainer					
Jet	3,200	8,100	7,900	1,500	1,600
Piston	700	920	990	250	250
Others <sup>b/</sup>	6,700	6,600	6,500	1,500	1,500
Total	<u>79,000</u>	<u>84,000</u>	<u>80,000</u>	<u>22,000</u>	<u>24,000</u>

a. These figures include production of spare parts and are rounded to reflect the maximum number of significant digits consistent with estimating procedures.

b. Helicopters, gliders, and seaplanes.

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Table 6

US Military Aircraft Acceptances, by Number  
1953 Through Second Quarter of 1956 a/

<u>Type of Aircraft</u>	<u>Units</u>				
	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1st Quarter of 1956</u>	<u>2d Quarter of 1956 b/</u>
Bomber					
Heavy	63	28	34	6	10
Medium	647	767	530	128	131
Light	23	106	155	29	15
Ground attack	441	860	631	135	111
Fighter	4,665	3,518	4,017	600	628
Transport	784	634	536	99	121
Trainer	1,961	1,602	1,439	286	223
Others <u>c/</u>	2,046	1,235	701	218	236
Total	<u>10,630</u>	<u>8,750</u>	<u>8,043</u>	<u>1,501</u>	<u>1,475</u>

a. The source for these figures is Office of the Assistant Secretary of Defense (Supply and Logistics), Statistics Branch, US Military Aircraft Acceptances, 1953-56, Number and Airframe Weight, June 1956. CONFIDENTIAL.

b. Includes preliminary data for June 1956.

c. Helicopters, flying boats, amphibians, and lighter-than-air.

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Table 7

US Military Aircraft Acceptances, by Weight  
1953 Through Second Quarter of 1956 a/

Type of Aircraft	Thousand Pounds of Airframe Weight				
	1953	1954	1955	1st Quarter of 1956	2d Quarter of 1956 b/
Bomber					
Heavy	7,123	3,304	3,853	678	1,128
Medium	30,034	37,296	26,377	5,901	5,834
Light	395	1,834	2,724	547	293
Ground attack	4,226	7,793	6,034	1,369	1,270
Fighter	40,682	35,390	43,161	7,068	7,363
Transport	36,550	30,614	20,697	3,611	4,560
Trainer	11,302	9,633	7,453	1,064	778
Others c/	7,819	4,831	4,397	1,160	1,465
Total	<u>138,131</u>	<u>130,695</u>	<u>114,696</u>	<u>21,398</u>	<u>22,691</u>

a. The source for these figures is Office of the Assistant Secretary of Defense (Supply and Logistics), Statistics Branch, US Military Aircraft Acceptances, 1953-56, Number and Airframe Weight, June 1956. CONFIDENTIAL.

b. Includes preliminary data for June 1956.

c. Helicopters, flying boats, amphibians, and lighter-than-air.

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Table 8

Estimated Production of Aircraft in the European Satellites, by Number  
1953 Through Second Quarter of 1956

Country	Type of Aircraft	Units <sup>a/</sup>			
		1953	1954	1955	1st Quarter of 1956
Czechoslovakia	Jet fighter	290	390	240	33
	Ground attack	460	210	60	0
	Jet trainer	0	90	310	105
	Piston trainer	70	190	360	90
	Small transport	25	0	18	19
	Other	0	0	0	3
Total		840	880	990	250
Poland	Jet fighter	4	150	310	79
	Piston trainer	0	60	0	0
Total		4	210	310	79
Bulgaria	Piston trainer	100	0	0	0
Rumania	Piston trainer	24	24	24	6
Hungary	Utility	20	24	24	6
Grand total		990	1,140	1,350	340

a. Rounded to reflect the maximum number of significant digits consistent with estimating procedures.

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Table 9

Estimated Production of Aircraft in the European Satellites, by Weight  
1953 Through Second Quarter of 1956

Thousand Pounds of Airframe Weight a/		1953	1954	1955	1st Quarter of 1956	2d Quarter of 1956
Country	Type of Aircraft					
Czechoslovakia	Jet fighter	1,700	2,300	1,400	200	200
	Ground attack	3,800	1,700	500	0	0
	Jet trainer	0	550	1,900	650	650
	Piston trainer	72	450	960	240	240
	Small transport	39	0	28	36	47
	Other	0	0	0	1	4
Total		5,700	5,100	4,800	1,100	1,100
Poland	Jet fighter	24	860	1,800	470	470
	Piston trainer	0	61	0	0	0
Total		24	920	1,800	470	470
Bulgaria	Piston trainer	120	0	0	0	0
Rumania	Piston trainer	22	22	22	6	6
Hungary	Utility	14	17	17	4	4
Grand total		5,800	6,000	6,700	1,600	1,600

a. These figures include production of spare parts. Rounded to reflect the maximum number of significant digits consistent with estimating procedures.

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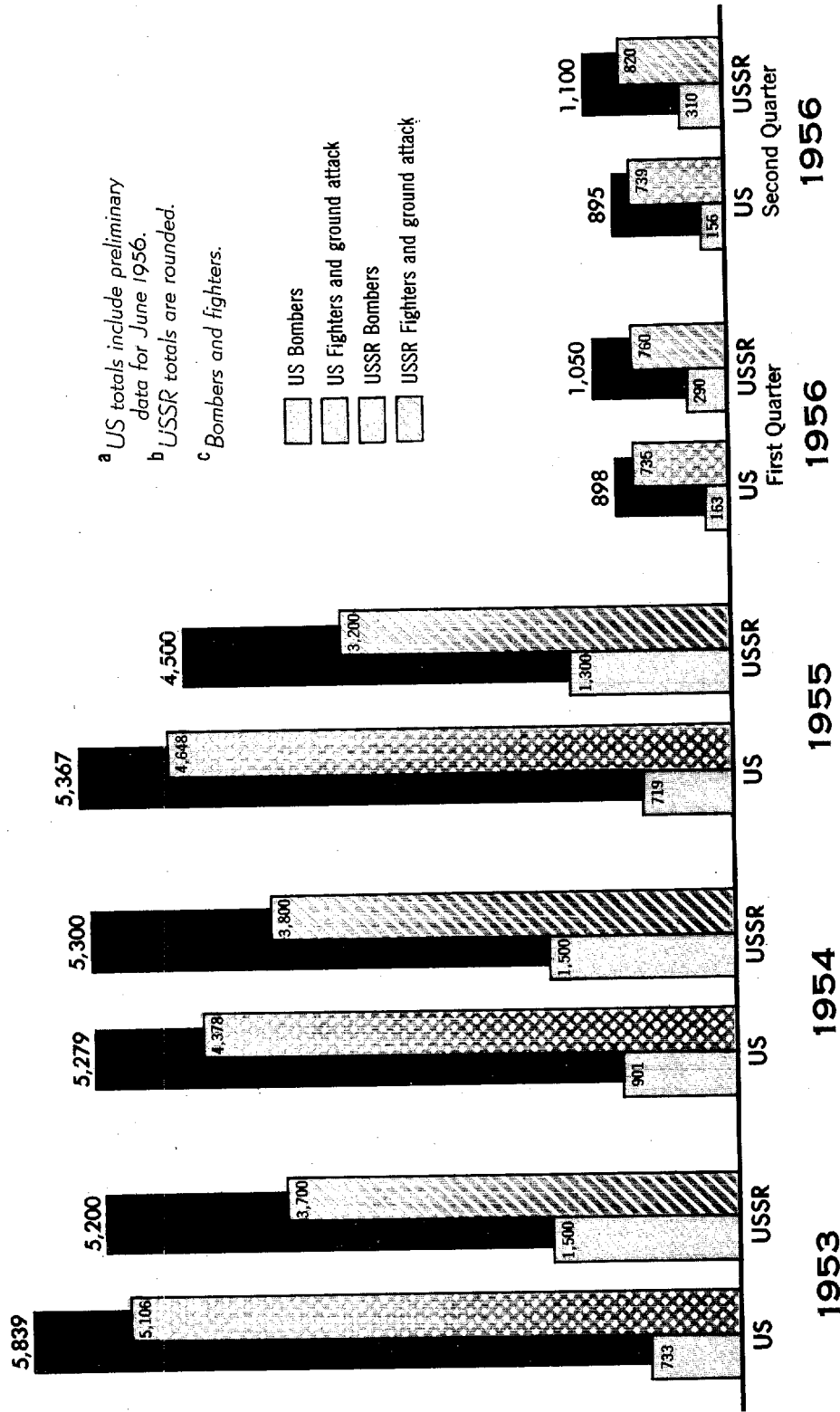
Figure 1.

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US<sup>a</sup> and USSR<sup>b</sup>

**PRODUCTION OF MILITARY AIRCRAFT, BY NUMBER**

1953 through Second Quarter 1956



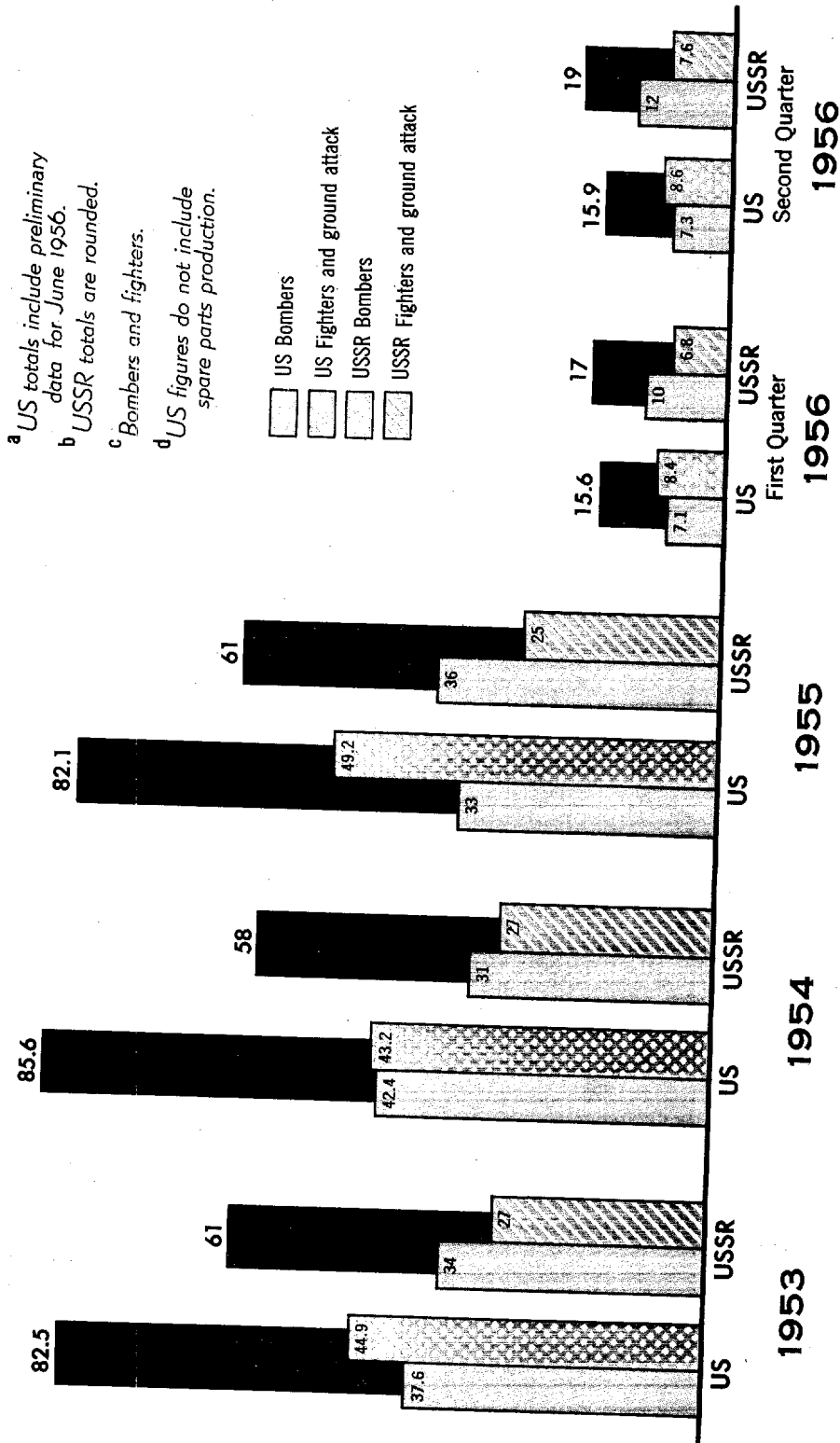
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**US<sup>a</sup> and USSR<sup>b</sup>**  
**PRODUCTION OF MILITARY AIRCRAFT<sup>c</sup>, BY WEIGHT<sup>d</sup>**  
**1953 through Second Quarter 1956**  
(Million pounds of airframe weight)

Figure 2.



<sup>a</sup> US totals include preliminary data for June 1956.

<sup>b</sup> USSR totals are rounded.

<sup>c</sup> Bombers and fighters.

<sup>d</sup> US figures do not include spare parts production.

US Bombers  
 US Fighters and ground attack  
 USSR Bombers  
 USSR Fighters and ground attack

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